



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,803	04/11/2006	Iftah Gideoni	0002152-0001-301	5245
1473 7590 08/04/2009 ROPES & GRAY LLP PATENT DOCKETING 39/361 1211 AVENUE OF THE AMERICAS NEW YORK, NY 10036-8704				
EXAMINER				
LOUIE, WAE LENNY				
ART UNIT		PAPER NUMBER		
3661				
MAIL DATE		DELIVERY MODE		
08/04/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,803

Applicant(s)

GIDEONI, IFTAH

Examiner

WAE LOUIE

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/550E)
Paper No(s)/Mail Date 4/11/06, 11/02/06, 1/14/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beard et al (7,302,316).

Regarding applicant claim 1-14, 44, Beard discloses a **method for controlling an unmanned vehicle with a state machine on said UV comprising** (col.2, lines 40-67, “a control system for autonomously controlling an unmanned aerial vehicle”)

entering a state of said state machine (col. 3, line 11-23, “autopilot control system includes executable instructions on the on-plane control system that are executable by the processor”);

receiving an input on said UV (col.3, line 12-20, “executable instructions are configured to implement a method for estimating the attitude of the UAV, includes sampling the state variables that are provided in part by the accelerometers, rate gyroscopes”);

evaluating a condition of a rule corresponding to said state using said input; performing at least one action corresponding to said rule based on a result of said evaluating; and modifying said state machine (col.3, line 10-25, “once the state variables are sampled they are processed through a fixed gain Kalman Filter,

whereupon a new state variable estimates are calculated. The new state variable estimates are then stored in the on-plane memory”).

Although Beard does not use the term “state machine” it would have been obvious to one of ordinary skill in the art to utilize the Kalman Filter of Beard to process the state variables in order to obtain new state information.

Regarding applicant claims 15-22, 33-43, 45, Beard discloses a method for **managing a first participant in a network of unmanned vehicles and ground stations wherein said network includes at least one other participant comprising** (abstract, col.2, lines 40-67, “a control system for autonomously controlling an unmanned aerial vehicle... a first set of sensors... a second set of sensors... furthermore, the on-plane control system may also have a global positioning system” col. 3, line 4-10, “ground station also includes an RC controller in electronic communication with the processor. The RC controller may be used for manual control of the UAV if desired”):

Beard discloses **maintaining first state information about said first participant** as described above; but is silent concerning **transmitting an update of said first state information to said at least one other participant; maintaining second state information about said at least one other participant; and receiving an update of said second state information from said at least one other participant**. Although Beard does not disclose the participation of other unmanned vehicles in the disclosure, it would have been obvious to one of ordinary skill in the art

to control one or any number of other unmanned vehicles since this would have been a matter of scalability which is well within the scope of Beard (col. 22, line 33-49).

Regarding applicant claims 23-32, Beard discloses a **system for controlling an unmanned vehicle with a state machine on said UV comprising** (col.2, line 40-67):

a sensor mounted on said UV (col. 2, line 45-50, "different sensors in electronic communication with the processor");

a controller module mounted on said UV and coupled to said sensor (col. 2, line 45, "on-plane control system also includes a processor and memory in electronic communication with the processor");

a junction mounted on said UV coupled to said sensor and said controller module (col. 2, line 45, "on-plane control system"); and

a command unit mounted on said UV and coupled to said junction, wherein: said command unit is configured to control said UV using said controller module based on information from said sensor (col. 4, lines 45-60, "autopilot system 100 provides flight control of a UAV 101").

Although Beard does not use the term junction, it would have been obvious to one of ordinary skill in the art to equate the on-plane control system of Beard to the applicant's junction since it serves the same function of communicating between the sensors and controller.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WAE LOUIE whose telephone number is (571)272-5195. The examiner can normally be reached on M-F 0700-1530.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wae Louie/
Examiner, Art Unit 3661

/Thomas G. Black/
Supervisory Patent Examiner, Art Unit 3661